Installing and Upgrading Memory in Cisco 1700 Series Routers

This document describes how to install or upgrade memory in the Cisco 1720, Cisco 1721, Cisco 1750, Cisco 1751, Cisco 1751-V, Cisco 1760, and Cisco 1760-V routers.

Note The memory in the Cisco 1710-VPN-M/K9 router cannot be upgraded.

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Memory Options and Upgrade Kits

Table 1 describes memory sizing for the various Cisco 1700 series routers.

Table 1 Memory Options for Cisco 1700 Series Routers

Product Number	Default Memory		Maximum Memory		Comments
	Flash	DRAM	Flash	DRAM	
Cisco 1710-VPN-M/K9	16 MB	64 MB	16 MB	64 MB	Flash memory and DRAM not upgradable
Cisco 1720	8 MB	32 MB	16 MB	48 MB	16-MB DRAM in DIMM slot
Cisco 1721	32 MB	64 MB	32 MB	128 MB	Flash memory not upgradable
Cisco 1750	4 MB	16 MB	16 MB	48 MB	
Cisco 1751	32 MB	64 MB	32 MB	128 MB	Flash memory not upgradable
Cisco 1751-V	32 MB	96 MB	32 MB	128 MB	Flash memory not upgradable
Cisco 1760	32 MB	64 MB	64 MB	160 MB	
Cisco 1760-V	32 MB	96 MB	64 MB	160 MB	

Table 2 describes the Cisco parts to which this document applies.

Table 2 Cisco 1700 Series Router Memory Upgrades

Description	Router	Cisco Part Number
16-MB SDRAM DIMM	Cisco 1720, 1721, 1750, 1751, 1751-V, 1760, 1760-V	MEM1700-16D=
32-MB SDRAM DIMM	Cisco 1720, 1721, 1750, 1751, 1751-V, 1760, 1760-V	MEM1700-32D=
64-MB SDRAM DIMM	Cisco 1721, 1751, 1751-V, 1760, 1760-V	MEM1700-64D=
128-MB SDRAM DIMM*	Cisco 1760, 1760-V	MEM1700-64U160D=
8-MB mini-flash module	Cisco 1720, 1750	MEM1700-8MFC=
16-MB mini-flash module	Cisco 1720, 1750	MEM1700-16MFC=
8-MB mini-flash SIMM	Cisco 1760, 1760-V	MEM1700-8MFS
16-MB mini-flash SIMM	Cisco 1760, 1760-V	MEM1700-16MFS
32-MB mini-flash SIMM	Cisco 1760, 1760-V	MEM1700-32MFS
64-MB mini-flash SIMM	Cisco 1760, 1760-V	MEM1700-64MFS

*A maximum of 160 MB DRAM is recognized in the Cisco 1760 and Cisco 1760-V routers.

Safety Warnings

Safety warnings appear throughout this publication in procedures that can harm you if they are performed incorrectly. A warning symbol precedes each warning statement.

Warning Definition

Warning **IMPORTANT SAFETY INSTRUCTIONS**

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS

Waarschuwing **BELANGRIJKE VEILIGHEIDSINSTRUCTIES**

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van de standaard praktijken om ongelukken te voorkomen. Gebruik het nummer van de verklaring onderaan de waarschuwing als u een vertaling van de waarschuwing die bij het apparaat wordt geleverd, wilt raadplegen.

BEWAAR DEZE INSTRUCTIES

Varoitus **TÄRKEITÄ TURVALLISUUSOHJEITA**

Tämä varoitusmerkki merkitsee vaaraa. Tilanne voi aiheuttaa ruumiillisia vammoja. Ennen kuin käsittelet laitteistoa, huomioi sähköpiirien käsittelemiseen liittyvät riskit ja tutustu onnettomuuksien yleisiin ehkäisytapoihin. Turvallisuusvaroitusten käännökset löytyvät laitteen mukana toimitettujen käännettyjen turvallisuusvaroitusten joukosta varoitusten lopussa näkyvien lausuntonumeroiden avulla.

SÄILYTÄ NÄMÄ OHJEET

Attention **IMPORTANTES INFORMATIONS DE SÉCURITÉ**

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS

Warnung **WICHTIGE SICHERHEITSHINWEISE**

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.

Avvertenza **IMPORTANTI ISTRUZIONI SULLA SICUREZZA**

Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Utilizzare il numero di istruzione presente alla fine di ciascuna avvertenza per individuare le traduzioni delle avvertenze riportate in questo documento.

CONSERVARE QUESTE ISTRUZIONI

Advarsel **VIKTIGE SIKKERHETSINSTRUKSJONER**

Dette advarselssymbolet betyr fare. Du er i en situasjon som kan føre til skade på person. Før du begynner å arbeide med noe av utstyret, må du være oppmerksom på farene forbundet med elektriske kretser, og kjenne til standardprosedyrer for å forhindre ulykker. Bruk nummeret i slutten av hver advarsel for å finne oversettelsen i de oversatte sikkerhetsadvarslene som fulgte med denne enheten.

TA VARE PÅ DISSE INSTRUKSJONENE

Aviso **INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você está em uma situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha conhecimento dos perigos envolvidos no manuseio de circuitos elétricos e familiarize-se com as práticas habituais de prevenção de acidentes. Utilize o número da instrução fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham este dispositivo.

GUARDE ESTAS INSTRUÇÕES

¡Advertencia! **INSTRUCCIONES IMPORTANTES DE SEGURIDAD**

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES

Varning! **VIKTIGA SÄKERHETSANVISNINGAR**

Denna varningssignal signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanliga förfaranden för att förebygga olyckor. Använd det nummer som finns i slutet av varje varning för att hitta dess översättning i de översatta säkerhetsvarningar som medföljer denna anordning.

SPARA DESSA ANVISNINGAR

Figyelem **FONTOS BIZTONSÁGI ELOÍRÁSOK**

Ez a figyelmezeto jel veszélyre utal. Sérülésveszélyt rejto helyzetben van. Mielott bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplo figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján keresheto meg.

ORIZZE MEG EZEKET AZ UTASÍTÁSOKAT!

Предупреждение **ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ**

Этот символ предупреждения обозначает опасность. То есть имеет место ситуация, в которой следует опасаться телесных повреждений. Перед эксплуатацией оборудования выясните, каким опасностям может подвергаться пользователь при использовании электрических цепей, и ознакомьтесь с правилами техники безопасности для предотвращения возможных несчастных случаев. Воспользуйтесь номером заявления, приведенным в конце каждого предупреждения, чтобы найти его переведенный вариант в переводе предупреждений по безопасности, прилагаемом к данному устройству.

СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ

警告 重要的安全性说明

此警告符号代表危险。您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾提供的声明号码来找到此设备的安全性警告说明的翻译文本。

请保存这些安全性说明

警告 安全上の重要な注意事項

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止策に留意してください。警告の各国語版は、各注意事項の番号を基に、装置に付属の「Translated Safety Warnings」を参照してください。

これらの注意事項を保管しておいてください。

주의 중요 안전 지침

이 경고 기호는 위험을 나타냅니다. 작업자가 신체 부상을 일으킬 수 있는 위험한 환경에 있습니다. 장비에 작업을 수행하기 전에 전기 회로와 관련된 위험을 숙지하고 표준 작업 관례를 숙지하여 사고를 방지하십시오. 각 경고의 마지막 부분에 있는 경고문 번호를 참조하여 이 장치와 함께 제공되는 번역된 안전 경고문에서 해당 번역문을 찾으십시오.

이 지시 사항을 보관하십시오.

Aviso **INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você se encontra em uma situação em que há risco de lesões corporais. Antes de trabalhar com qualquer equipamento, esteja ciente dos riscos que envolvem os circuitos elétricos e familiarize-se com as práticas padrão de prevenção de acidentes. Use o número da declaração fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham o dispositivo.

GUARDE ESTAS INSTRUÇÕES

Advarsel **VIGTIGE SIKKERHEDSANVISNINGER**

Dette advarselssymbol betyder fare. Du befinder dig i en situation med risiko for legemesbeskadigelse. Før du begynder arbejde på udstyr, skal du være opmærksom på de involverede risici, der er ved elektriske kredsløb, og du skal sætte dig ind i standardprocedurer til undgåelse af ulykker. Brug erklæringsnummeret efter hver advarsel for at finde oversættelsen i de oversatte advarsler, der fulgte med denne enhed.

GEM DISSE ANVISNINGER

تحذير **إرشادات الأمان الهامة**

يوضح رمز التحذير هذا وجود خطر. وهذا يعني أنك متواجد في مكان قد ينتج عنه التعرض لإصابات. قبل بدء العمل، احذر مخاطر التعرض للصدمات الكهربائية وكن على علم بالإجراءات القياسية للحيلولة دون وقوع أي حوادث. استخدم رقم البيان الموجود في أخر كل تحذير لتحديد مكان ترجمته داخل تحذيرات الأمان المترجمة التي تأتي مع الجهاز.
قم بحفظ هذه الإرشادات

Upozorenje **VAŽNE SIGURNOSNE NAPOMENE**

Ovaj simbol upozorenja predstavlja opasnost. Nalazite se u situaciji koja može prouzročiti tjelesne ozljede. Prije rada s bilo kojim uređajem, morate razumjeti opasnosti vezane uz električne sklopove, te biti upoznati sa standardnim načinima izbjegavanja nesreća. U prevedenim sigurnosnim upozorenjima, priloženima uz uređaj, možete prema broju koji se nalazi uz pojedino upozorenje pronaći i njegov prijevod.

SAČUVAJTE OVE UPUTE

Upozornění

DŮLEŽITÉ BEZPEČNOSTNÍ POKYNY

Tento upozorňující symbol označuje nebezpečí. Jste v situaci, která by mohla způsobit nebezpečí úrazu. Před prací na jakémkoliv vybavení si uvědomte nebezpečí související s elektrickými obvody a seznamte se se standardními opatřeními pro předcházení úrazům. Podle čísla na konci každého upozornění vyhledejte jeho překlad v přeložených bezpečnostních upozorněních, která jsou přiložena k zařízení.

USCHOVEJTE TYTO POKYNY

Προειδοποίηση

ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ

Αυτό το προειδοποιητικό σύμβολο σημαίνει κίνδυνο. Βρίσκεστε σε κατάσταση που μπορεί να προκαλέσει τραυματισμό. Πριν εργαστείτε σε οποιοδήποτε εξοπλισμό, να έχετε υπόψη σας τους κινδύνους που σχετίζονται με τα ηλεκτρικά κυκλώματα και να έχετε εξοικειωθεί με τις συνήθεις πρακτικές για την αποφυγή ατυχημάτων. Χρησιμοποιήστε τον αριθμό δήλωσης που παρέχεται στο τέλος κάθε προειδοποίησης, για να εντοπίσετε τη μετάφρασή της στις μεταφρασμένες προειδοποιήσεις ασφαλείας που συνοδεύουν τη συσκευή.

ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ

אזהרה

הוראות בטיחות חשובות

סימן אזהרה זה מסמל סכנה. אתה נמצא במצב העלול לגרום לפציעה. לפני שתעבוד עם ציוד כלשהו, עליך להיות מודע לסכנות הכרוכות במעגלים חשמליים ולהכיר את הנהלים המקובלים למניעת תאונות. השתמש במספר ההוראה המסופק בסופה של כל אזהרה כד לאתר את התרגום באזהרות הבטיחות המתורגמות שמצורפות להתקן.

שמור הוראות אלה

Opomena

ВАЖНИ БЕЗБЕДНОСНИ НАПАТСТВИЈА
Симболот за предупредување значи опасност. Се наоѓате во ситуација што може да предизвика телесни повреди. Пред да работите со опремата, бидете свесни за ризикот што постои кај електричните кола и треба да ги познавате стандардните постапки за спречување на несреќни случаи. Искористете го бројот на изјавата што се наоѓа на крајот на секое предупредување за да го најдете неговиот период во преведените безбедносни предупредувања што се испорачани со уредот.
ЧУВАЈТЕ ГИ ОВИЕ НАПАТСТВИЈА

Ostrzeżenie

WAŻNE INSTRUKCJE DOTYCZĄCE BEZPIECZEŃSTWA

Ten symbol ostrzeżenia oznacza niebezpieczeństwo. Zachodzi sytuacja, która może powodować obrażenia ciała. Przed przystąpieniem do prac przy urządzeniach należy zapoznać się z zagrożeniami związanymi z układami elektrycznymi oraz ze standardowymi środkami zapobiegania wypadkom. Na końcu każdego ostrzeżenia podano numer, na podstawie którego można odszukać tłumaczenie tego ostrzeżenia w dołączonym do urządzenia dokumencie z tłumaczeniami ostrzeżeń.

NINIEJSZE INSTRUKCJE NALEŻY ZACHOWAĆ

Upozornenie **DÔLEŽITÉ BEZPEČNOSTNÉ POKYNY**

Tento varovný symbol označuje nebezpečenstvo. Nachádzate sa v situácii s nebezpečenstvom úrazu. Pred prácou na akomkoľvek vybavení si uvedomte nebezpečenstvo súvisiace s elektrickými obvodmi a oboznámte sa so štandardnými opatreniami na predchádzanie úrazom. Podľa čísla na konci každého upozornenia vyhľadajte jeho preklad v preložených bezpečnostných upozorneniach, ktoré sú priložené k zariadeniu.

USCHOVAJTE SI TENTO NÁVOD

Power Supply Warnings

The following warnings apply when you are installing a card or working with the power supply:

Warning **Read the installation instructions before you connect the system to its power source.** Statement 1004

Warning **Only trained and qualified personnel should be allowed to install, replace, or service this equipment.** Statement 1030

Warning **Before working on a system that has an on/off switch, turn OFF the power and unplug the power cord.** Statement 1

Warning **Ultimate disposal of this product should be handled according to all national laws and regulations.** Statement 1040

Electrical Warnings

The following warnings apply when you are working with electricity:

Warning **To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables.** Statement 1021

Warning **No operator-serviceable parts inside. Refer servicing to qualified personnel.** Statement 81

Follow these guidelines when working on equipment powered by electricity:

- Locate the emergency power-off switch in the room in which you are working. Then, if an electrical accident occurs, you can quickly shut the power off.
- Before working on the router, turn off power to the router and unplug the power cord.

- Disconnect all power before doing the following:
  - Installing or removing a router chassis
  - Working near power supplies
- Do not work alone if potentially hazardous conditions exist.
- Never assume that power is disconnected from a circuit. Always check.
- Look carefully for possible hazards in your work area, such as moist floors, ungrounded power extension cables, and missing safety grounds.

If an electrical accident occurs, proceed as follows:

- Use caution; do not become a victim yourself.
- Turn off power to the router.
- If possible, send another person to get medical aid. Otherwise, determine the condition of the victim and then call for help.
- Determine if the victim needs rescue breathing or external cardiac compressions; then take appropriate action.

Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. It can occur when printed circuit cards are improperly handled and can result in complete or intermittent failures. Always follow ESD prevention procedures when removing and replacing cards. Ensure that the router chassis is electrically connected to earth ground. Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. Connect the clip to an unpainted surface of the chassis frame to safely channel unwanted ESD voltages to ground. To guard against ESD damage and shocks, the wrist strap and cord must be used properly. If no wrist strap is available, ground yourself by touching the metal part of the chassis.

Caution For safety, periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohms (Mohm).

Opening the Chassis of a Desktop Router

To upgrade router memory, you must open the chassis. Follow the steps below to open the chassis of a Cisco 1720, Cisco 1721, Cisco 1750, or Cisco 1751 router.

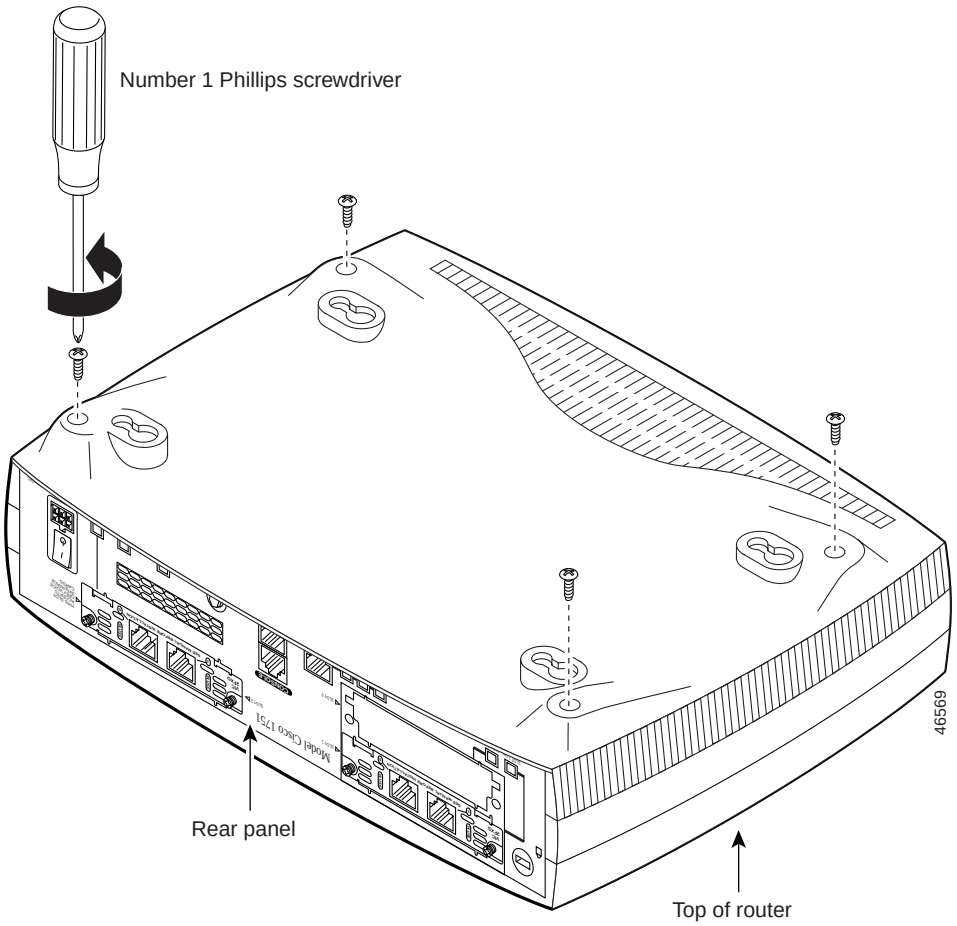
Opening the chassis requires a number 1 Phillips screwdriver.

Step 1 Make sure the router is turned off and is disconnected from the power supply.

Step 2 Turn the router upside down, and rest the router on a flat surface.

Step 3 Use the Phillips screwdriver to remove the four screws that hold the top and bottom of the chassis together, as shown in Figure 1.

Figure 1 Removing the Chassis Screws



Step 4 Turn the router back to its original position (right-side up).

Step 5 Gently pull the top of the router (which is facing up toward you) up and away from the bottom of the router (which is resting on the flat surface).

Step 6 (Optional) Disconnect the fan cable from the connector labeled FAN on the motherboard.

Step 7 Place the router bottom on an antistatic mat, and begin installing memory.

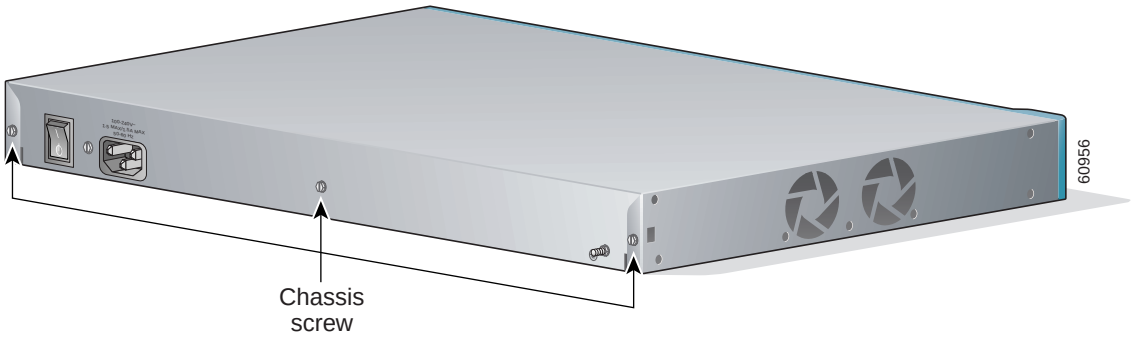
Opening the Chassis of a Rack-Mount Router

Follow the steps below to open the chassis of a Cisco 1760 router. Opening the chassis requires a flat-head screwdriver.

Step 1 Make sure that the router is turned off and is disconnected from the power supply.

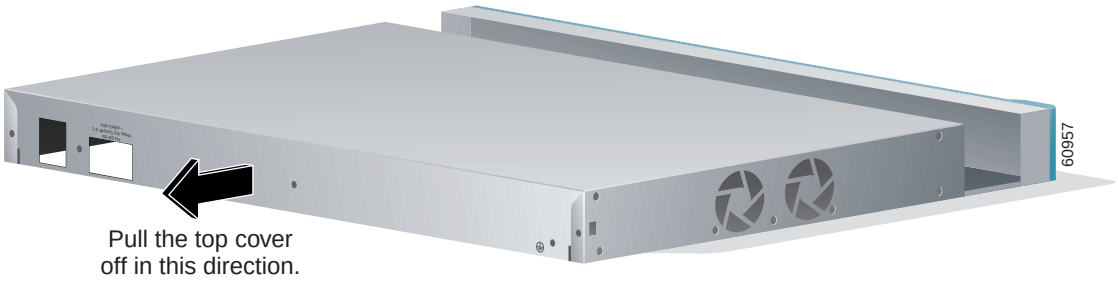
Step 2 Use a flat-head screwdriver to remove the five screws that hold the top and bottom of the chassis together, as shown in Figure 2.

Figure 2 Removing the Cisco 1760 Chassis Screws



Step 3 Gently slide the top cover of the router toward you, as shown in Figure 3.

Figure 3 Removing the Top Cover of the Router



Step 4 Place the router bottom on an antistatic mat, and begin installing modules.

Locating Modules

Figure 4 on page 12 and Figure 6 on page 14 show where to install DIMMs and mini-flash modules on the Cisco 1720 and Cisco 1750 router motherboards. Figure 5 on page 13 shows where to install DIMMs on the Cisco 1721 router motherboard. Figure 7 on page 15 shows where to install DIMMs on the Cisco 1751 router motherboard. Figure 8 on page 15 shows where to install DIMMs and mini-flash SIMMs on the Cisco 1760 router motherboard.

Note There are no mini-flash modules on the Cisco 1721, Cisco 1751 or Cisco 1760 routers.

Figure 4 Cisco 1720 Motherboard—Memory Locations

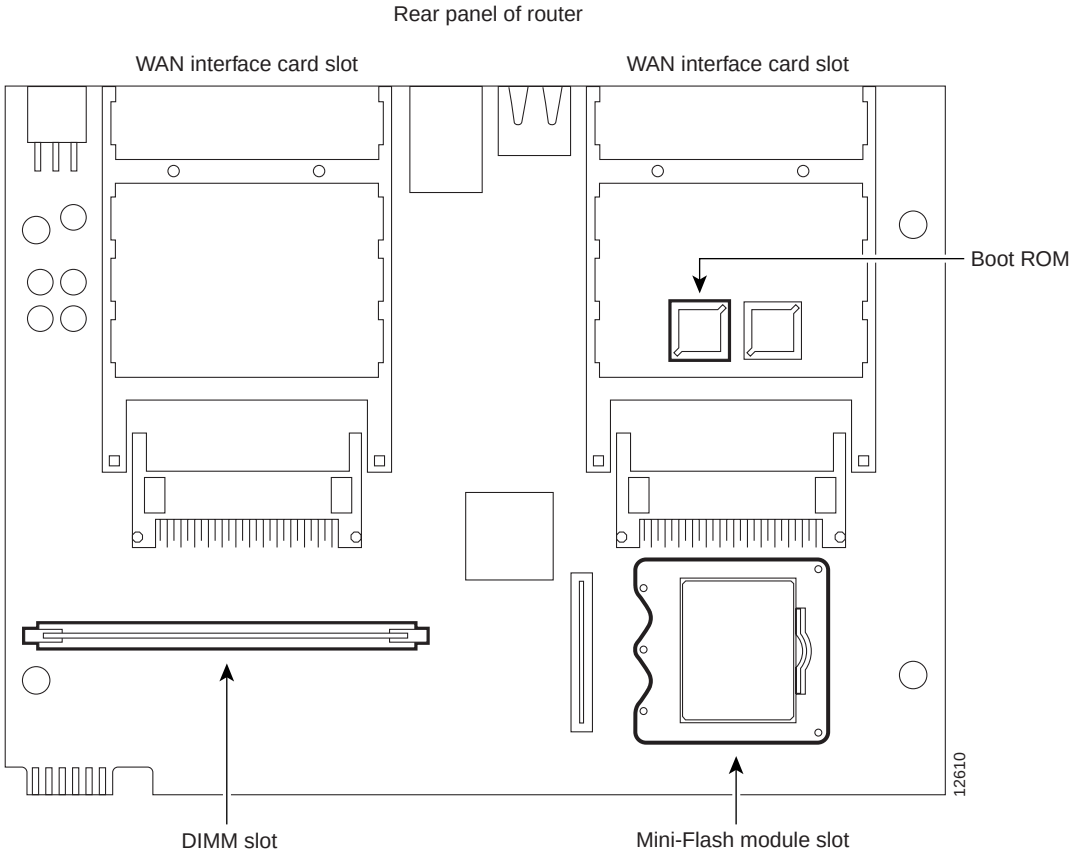


Figure 5 Cisco 1721 Motherboard—Memory Locations

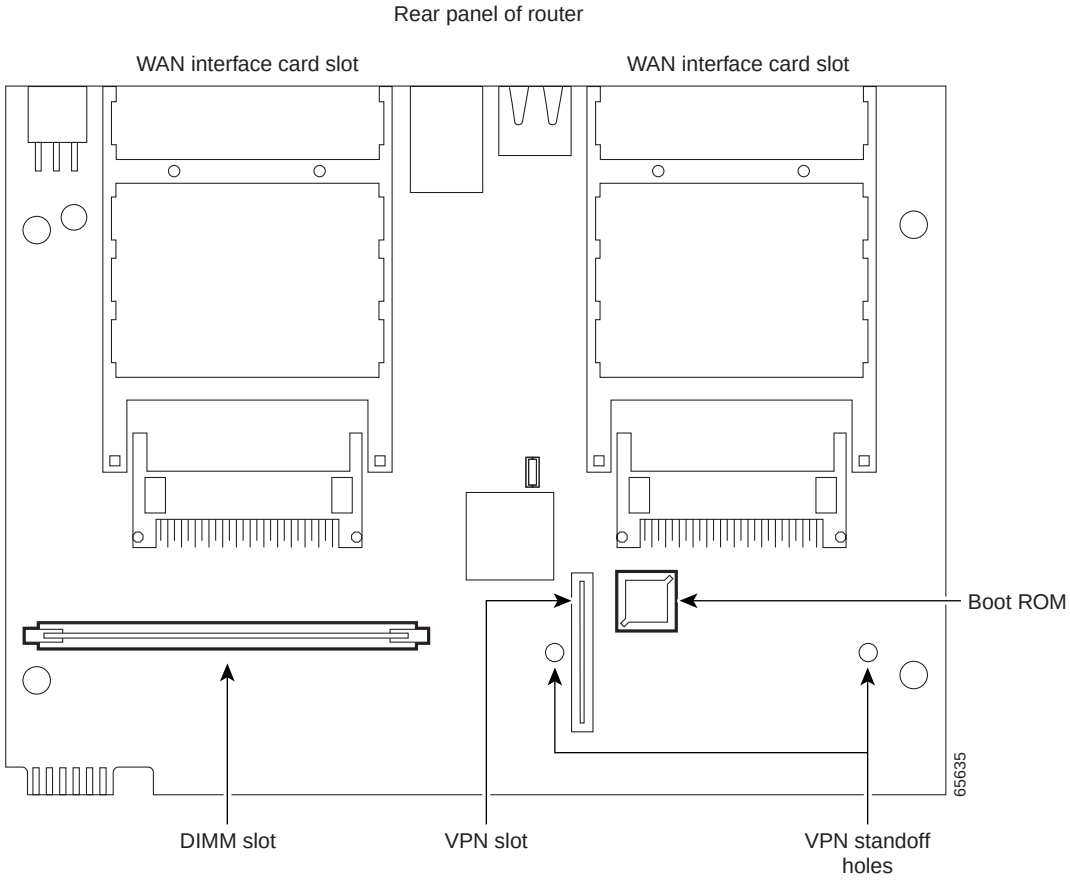


Figure 6 Cisco 1750 Motherboard—Memory Locations

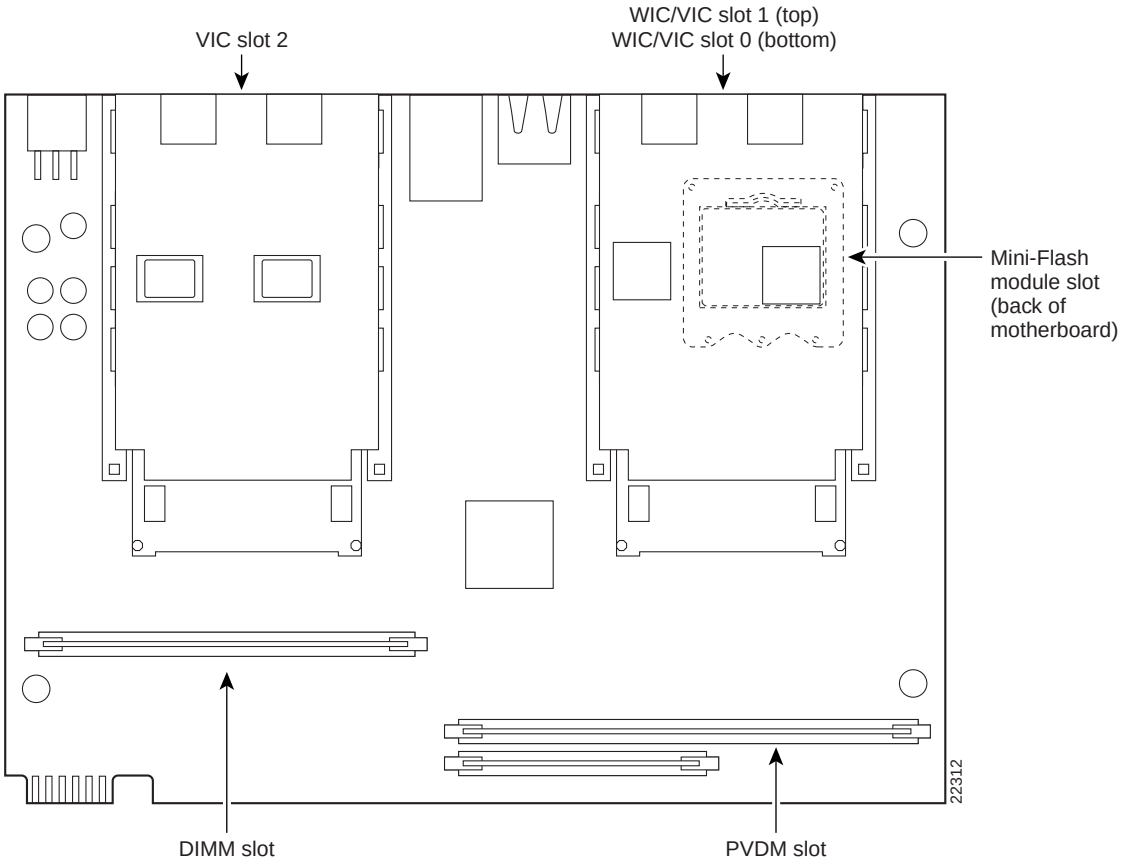


Figure 7 Cisco 1751 Motherboard—Memory Locations

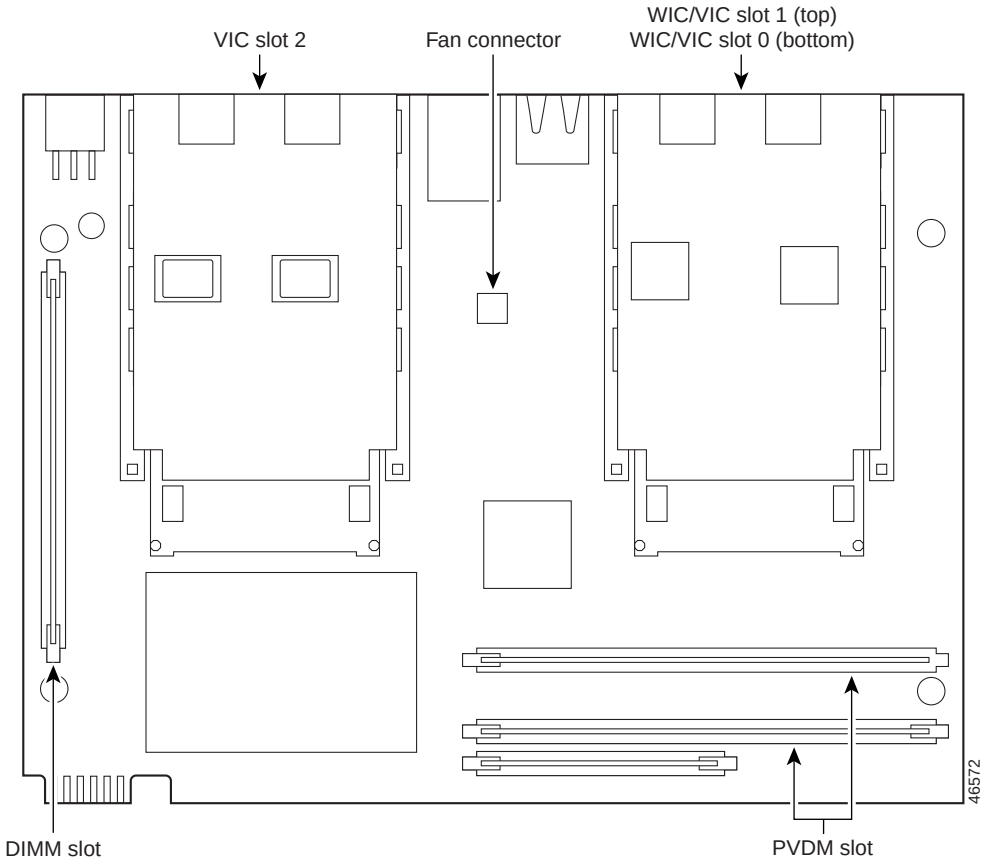
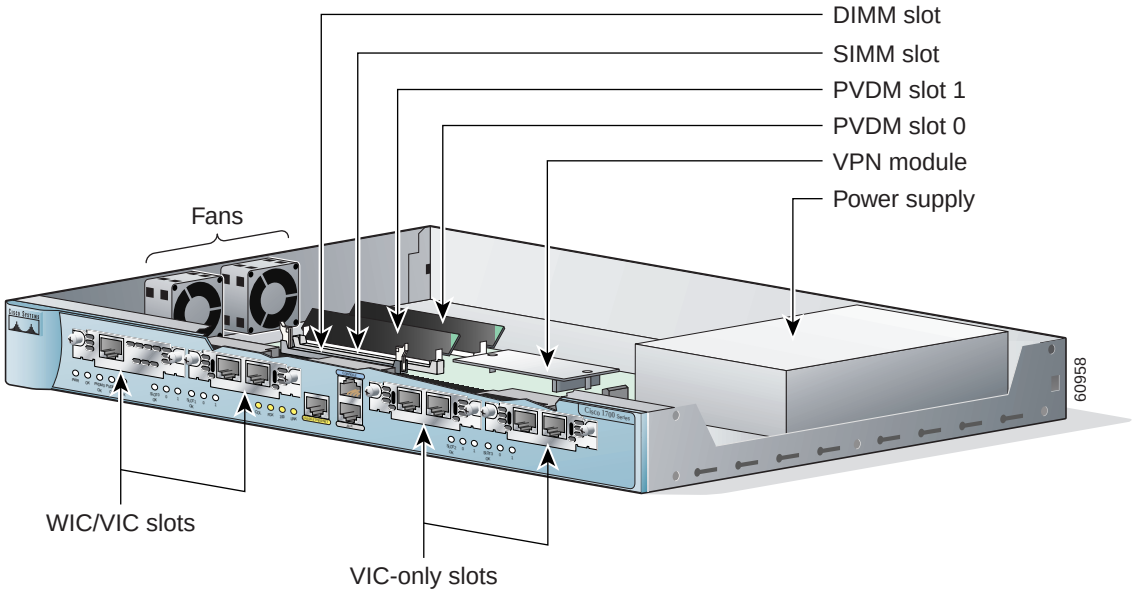


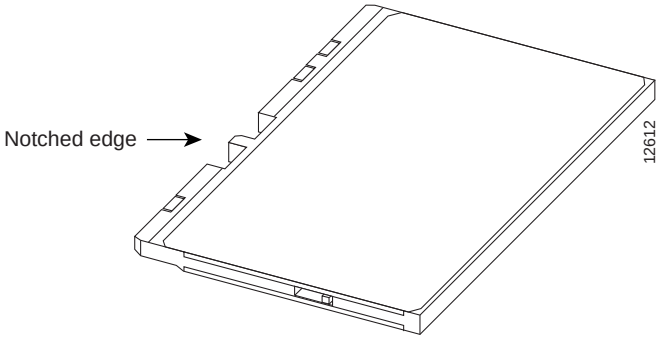
Figure 8 Cisco 1760 Motherboard—Memory Locations



Installing a Mini-Flash Module

You can install a mini-flash module (shown in Figure 9 below) in a Cisco 1720 or Cisco 1750 router to increase the amount of router flash memory. (This section does not apply to Cisco 1721, Cisco 1751 or Cisco 1760 routers.)

Figure 9 Mini-Flash Module



Take the following steps to install a mini-flash module on the motherboard:

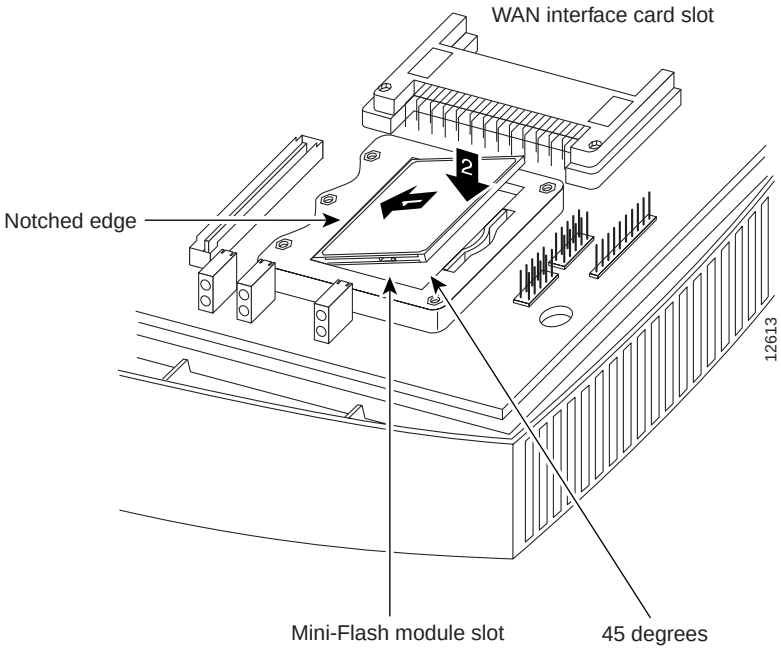
Step 1 Locate the module slot on the motherboard, shown in Figure 4 on page 12 or Figure 6 on page 14.

Step 2 Hold the module with the notched edge away from you.

Step 3 Insert the module into the module slot at a 45-degree angle, as shown in Figure 10 below.

Step 4 Press down firmly on the module until you hear a clicking sound and the module is firmly inserted in the slot.

Figure 10 Installing a Mini-Flash Module



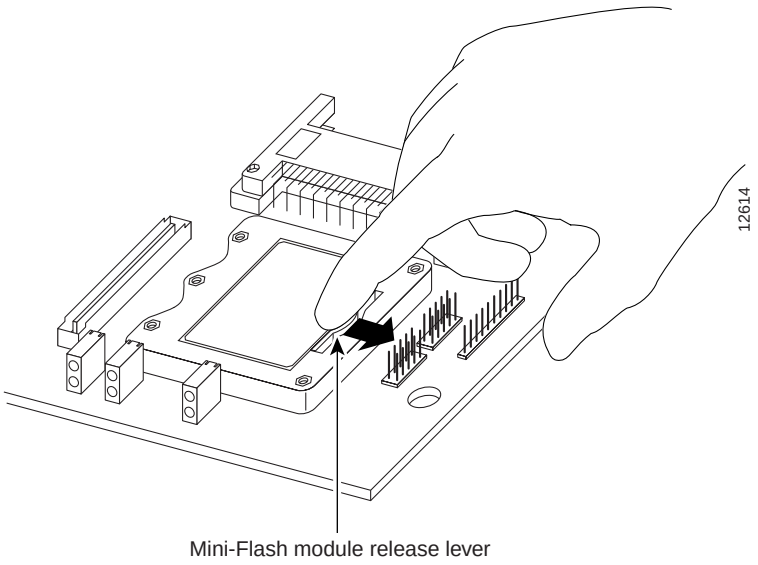
Removing a Mini-Flash Module

Take the following steps to remove a mini-flash module:

Step 1 Insert your index finger between the mini-flash module and the mini-flash module release lever, as shown in Figure 11 below.

Step 2 Firmly pull the release lever away from the module until the module pops up and away from the module slot.

Figure 11 Removing a Mini-Flash Module



Installing a Dual In-Line Memory Module

You can install a dual in-line memory module (DIMM) to increase the amount of dynamic RAM (DRAM) in the Cisco 1720, Cisco 1721, Cisco 1750, Cisco 1751, or Cisco 1760 routers.

Warning **During this procedure, wear grounding wrist straps to avoid ESD damage to the router. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself.** Statement 94

Take the following steps to install a DIMM on the router motherboard:

Step 1 Locate the DIMM slot on the motherboard of your router. (See Figure 4 through Figure 8 for the location on your router.)

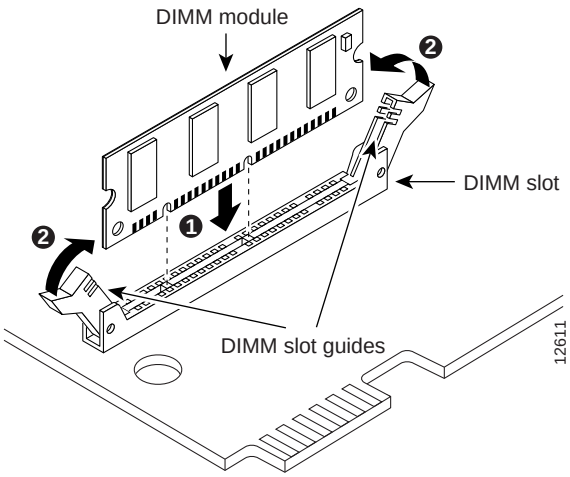
Step 2 Remove any existing module (the Cisco 1751 router has a blank DIMM) by pulling the DIMM slot guides away from the DIMM and down toward the motherboard.

Step 3 Hold the replacement DIMM with the notched edge away from you and facing the router.

Step 4 Insert the DIMM into the DIMM slot, making sure that the notches on the edge of the DIMM are inserted over the bars inside the DIMM slot, as in Figure 12 below.

Step 5 Firmly press the DIMM into the slot until the two slot guides on each side of the slot move up and over the end of the DIMM, as in Figure 12 below. If the guides do not move up over the edge of the DIMM, move them with your hands.

Figure 12 Installing a DIMM



Installing a SIMM

You can install one SIMM to increase the amount of flash memory in the router. Follow these steps to install a SIMM on the router motherboard.

Warning **During this procedure, wear grounding wrist straps to avoid ESD damage to the router. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself.** Statement 94

Take the following steps to install a SIMM on the router motherboard:

Step 1 Locate the SIMM slot on the motherboard. See Figure 8 on page 15.

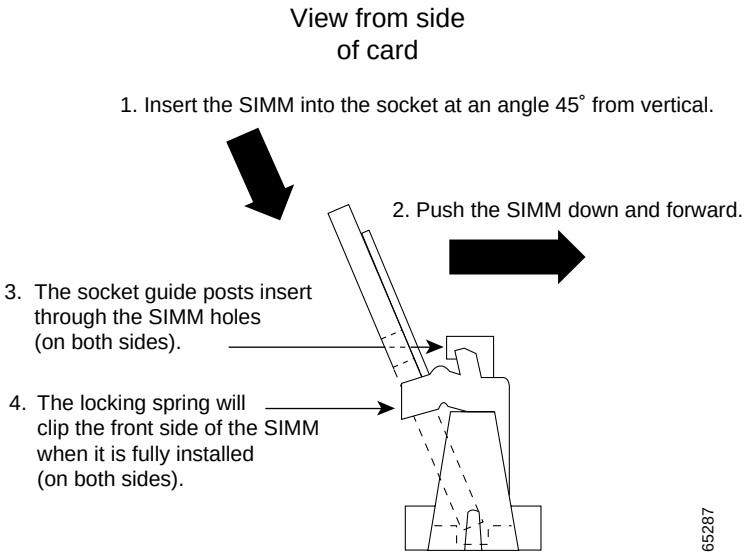
Step 2 Remove any existing SIMM by pulling the locking spring clips on both sides outward and tilting the SIMM free of the clips.

Step 3 Face the front panel of the router. Hold the SIMM with the component side toward you.

Caution Handle SIMMs by the card edges only. SIMMs are ESD-sensitive components and can be damaged by mishandling.

Step 4 Position the SIMM so that the indexing slot in the connector (bottom edge) of the SIMM is lined up with the indexing tab inside the SIMM slot. Tilt the SIMM 45 degrees toward the rear of the router, and insert it into the slot. (See Figure 13 below.) Rock it into its vertical position, using the minimum force necessary. When the SIMM is properly seated, the connector springs click into place.

Figure 13 Installing a SIMM


View from side
of card
1. Insert the SIMM into the socket at an angle 45˚ from vertical.
2. Push the SIMM down and forward.
3. The socket guide posts insert through the SIMM holes (on both sides).
4. The locking spring will clip the front side of the SIMM when it is fully installed (on both sides).
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Closing the Chassis of a Desktop Router

After installing memory on the motherboard, follow these steps to close the chassis:

Step 1 If you disconnected the fan from the motherboard as described in the "Opening the Chassis of a Desktop Router" section on page 9, reconnect the fan cable to the connector labeled FAN on the motherboard.

Note The fan does not run continuously; it only turns on when the internal temperature of the router becomes too warm.

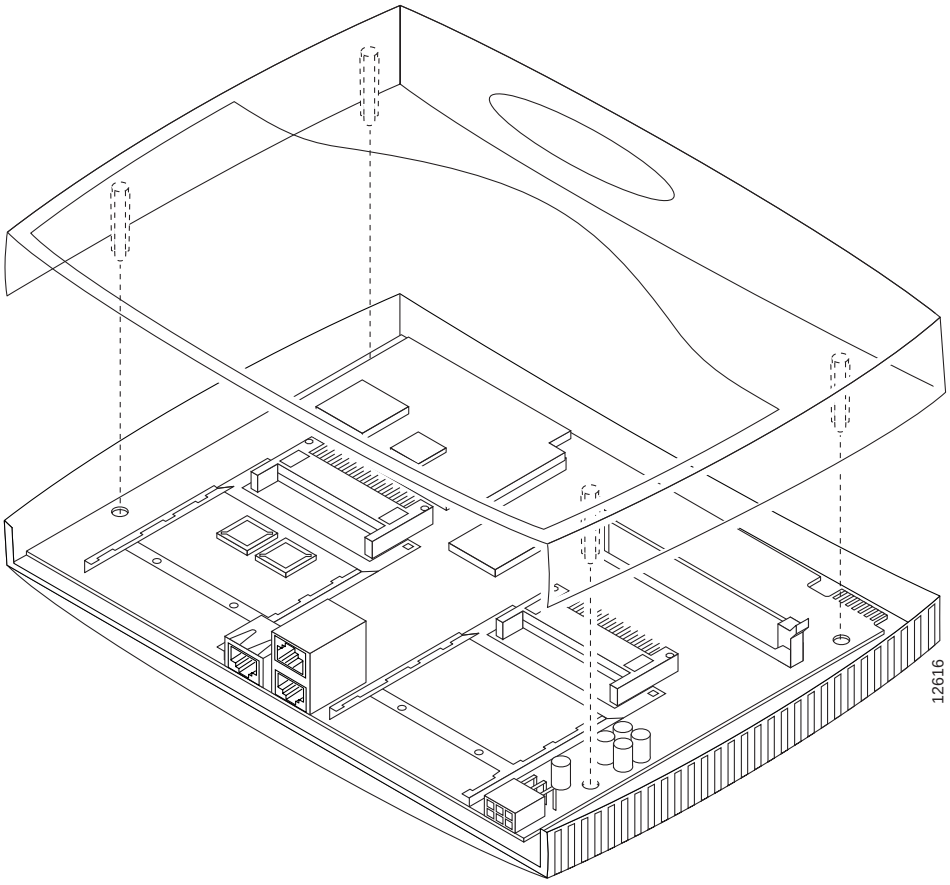
Step 2 Locate the posts that protrude from the inside of the chassis cover and corresponding openings on the chassis bottom.

Step 3 Line up the posts with the corresponding openings, as shown in Figure 14 on page 20, and carefully slide the posts into the openings, taking caution not to damage the router motherboard with the posts.

Caution Be careful not to damage the slot guides on the DIMM socket. If the guides are open, caution is necessary while installing the top of the chassis because improper installation can break the guides off the DIMM socket. (The Cisco 1751 router is shipped with a blank DIMM in the slot to keep the guides up and out of the way.)

Step 4 Replace the screws that you removed when opening the chassis. (See Figure 1 on page 10.)

Figure 14 Closing the Chassis



Closing the Chassis of a Rack-Mount Router

After installing memory or data modules on the motherboard, close the chassis by following these steps:

Step 1 Slide the top cover of the router back on the bottom of the chassis by pushing it in the opposite direction from that shown in Figure 3 on page 11.

Step 2 Replace the screws that you removed when you opened the chassis. (See Figure 2 on page 11.)

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

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- Report security vulnerabilities in Cisco products.
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- Nonemergencies—psirt@cisco.com

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Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one that has the most recent creation date in this public key server list:

http://pgp.mit.edu:11371/pks/lookup?search=psirt%40cisco.com&op=index&exact=on

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532

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To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

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